

DISPLAYS

FAQ

Q What is lens shift and how does it work?

A If you place your projector off-centre to the screen, the image becomes distorted, turning the rectangle into a trapezoid. Keystone correction can be used to counteract the angle of projection, but the image loses sharpness.

Projectors with lens shift are able to move the lens physically to change the angle of projection without losing sharpness. The projector still has to be placed parallel to the screen, but it doesn't have to be directly in front of it.

Lens shift is measured by percentage. For example, 100 per cent vertical shift means the image can be displaced by its entire height, with the bottom of the image being roughly where the top was.

As home cinema projectors produce a widescreen image, the vertical figure will be higher than the horizontal one, despite the actual distance of movement being identical in both directions.

Seth Barton
Displays and video expert

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MIRAI DTL-832E600

★★★★★

£350 inc VAT

From www.morecomputers.com

This HD TV from Mirai is the cheapest 32in model we've ever reviewed. Fortunately, its simple design and matt black finish don't reflect the low price. The remote is well designed, with clearly labelled controls and big buttons. The only disappointment is that the base doesn't swivel to give you easy access to the inputs, all of which are positioned on the rear.

You can connect a PC using the VGA input or a DVI-to-HDMI converter. Both support a near-native resolution of 1,360x768, which results in tiny black bars at either side of the screen. The Windows desktop was bright and had good contrast, and our more demanding image tests didn't show up any serious issues. A minor problem was a lack of detail in dark areas, and straight edges of objects lacked sharpness.

There's only a single HDMI input, so you'll have to use the component input for a second HD source. Both support resolutions up to 1080p, which is downsampled by the TV to match its native resolution. This should produce a slightly more detailed picture than upsampled 720p video, and a more stable one than de-interlaced 1080i. Testing the Mirai with a Blu-ray movie showed crisper motion with 1080p than 1080i, though we couldn't discern any increase in sharpness over 720p. Text appeared jagged at 1080p, making 720p our preferred setting. There's no support for displaying Blu-ray movies at their native 24fps.

There are two RGB-capable SCART sockets for connecting standard-definition sources. No composite or S-video inputs are provided, but both can be fed through the SCART inputs using inexpensive adaptors.

SUMMARY

- ✓ Inexpensive
- ✓ Three-year warranty
- ✗ TV picture could be better

32in LCD TV 1,366x768 native resolution, 6,000:1 contrast ratio, 500cd/m² brightness, HDMI, 2x SCART, VGA, component, S-video and composite inputs, digital and analogue tuners, three-year collect-and-return warranty **PART CODE** DTL-832E600
DETAILS www.mirai.eu



The digital and analogue tuners have separate RF inputs; this shouldn't be inconvenient as you'll opt to use one or the other, not both. The digital tuner has only a now-and-next programme guide and picture quality is disappointing – we saw some MPEG2 compression artefacts.

The 10W stereo speakers are the most disappointing aspect of this TV. They sound rather flat and are poor at reproducing bass; lower frequencies distort when you turn up the volume. Fortunately, there are phono and optical S/PDIF outputs, so you can connect the TV to a hi-fi or surround-sound amplifier.

The DTL-832E600 used an acceptable 150W when watching digital broadcasts, but a less impressive 3W when on standby. Sadly, there's no way to turn it off completely without unplugging it. On the plus side, it comes with a lengthy three-year warranty.

The DTL-832E600 is competitively priced and has no major flaws, especially if you're pairing it with a Freeview hard disk recorder or Sky+ box, instead of using the built-in tuner. We'd prefer a second HDMI input, though. Because of this it receives top marks but just misses out on an award.

Seth Barton

Also consider...

LG Flatron L204WS

★★★★★

£128 inc VAT

From www.morecomputers.co.uk

This 20in display is far better than its low price suggests. It only has a VGA input and dark images can appear muddy, but its colour and sharpness are much better than most 20in monitors at this price. If you can't stretch to LG's L227WT (right), then this is an excellent alternative.



20in WIDESCREEN LCD 1,680x1,050 native resolution, 5,000:1 contrast ratio, 300cd/m² brightness, VGA input **PART CODE** L204WS-SF
DETAILS www.lge.com
FULL REVIEW May 2008

LG Flatron L227WT

★★★★★

£216 inc VAT

From www.lambda-tek.com/components

This 22in monitor has excellent image quality. It displays bright, colour-saturated images that other 22in monitors just can't match. The backlight is blindingly bright, giving whites real impact, while its 5,000:1 dynamic contrast means there's plenty of detail in darker scenes. Because of this, the L227WT is a great choice for games or movies.



22in WIDESCREEN LCD 1,680x1,050 native resolution, 5,000:1 contrast ratio, 300cd/m² brightness, DVI and VGA inputs **PART CODE** L227WT
DETAILS www.lge.com
FULL REVIEW May 2008

OPTOMA EP727

★★★★★

£380 inc VAT

From www.lambda-tek.com/components

Optoma's EP727 is a tiny projector that weighs just 2kg. It has an HDCP-compatible DVI input, and can scale 720p and 1080i HD material to its native resolution. Because it uses DLP there's a slight rainbow effect, but colours are accurate and focus is pin-sharp. Our dark screen looked black, while whites were bright and clean. It's a great all-rounder.



OFFICE DLP PROJECTOR 1,024x768 native resolution, 2,200:1 contrast ratio; 2,200 ANSI lumens, VGA, S-video inputs **PART CODE** EP727
DETAILS www.optoma.co.uk
FULL REVIEW Feb 2008

EPSON EMP-TWD10

★★★★

£789 inc VAT

From www.lambda-tek.com/componentshop

Epson's new EMP-TWD10 projector incorporates a DVD player and speakers. It's ideal if you like the idea of a home cinema but don't want to clutter up your living room with technology. The price even includes an 80in floor-standing screen, which is useful if you don't have a convenient plain white wall. It's not the best-quality screen we've seen, though; the material is thin and the edges on our review sample were beginning to curl inwards.

Thanks to the 1.5x zoom lens, the projector can be positioned anywhere between two and three metres from the screen. A lensshift system provides up to 50 per cent vertical and 25 per cent horizontal movement (see FAQ, left).

If you place the device on a coffee table in front of you, the speakers and DVD drive will be facing you. Ingeniously, the upper section swivels by 180° so you could place it behind you, and still have access to the DVD drive.

Behind a flap on the 'rear' is a wide selection of inputs. The HDCP-compatible HDMI port supports resolutions up to 1080p and will handle native 24fps content from Blu-ray movies. An adaptor is provided for connecting component sources via the VGA input, and there are S-video and composite inputs for standard definition devices.

Using the HDMI input, we connected a PC set to the projector's 1,280x720 native resolution. Frustratingly, the



results were poor. Images lacked crispness. The VGA input will display a crisp 1,280x720 image, but there's no way of adjusting the onscreen position. With one PC we lost around 30 pixels off the right-hand edge of the screen, while another lost twice that amount off the left. Because of this, we can't recommend it for use with a PC or notebook.

Video quality from the built-in DVD player is acceptable, with no nasty artefacts or jagged edges caused by the upscaling process. HD content, like Blu-ray movies, looked good, but lacked sharpness and contrast in dark scenes. Epson wouldn't disclose the projector's contrast ratio.

The 1,200-lumen lamp means you'll have to darken the room to get a decent picture. The bulb should last for 2,000 hours at full brightness and

3,000 hours in eco mode. Epson wouldn't disclose the lumen rating for this setting. The bulb is covered by the three-year warranty and replacements cost £146, which works out at around 7.3p an hour.

The EMP-TWD10 is more expensive than Panasonic's PT-AX200E, but it comes with a screen, speakers and DVD player. It's a good buy for those wanting hassle-free HD home cinema, but you'll be disappointed if you plan to connect a PC or notebook to it.

Seth Barton

SUMMARY

- ✓ Ingenious rotating design
- ✓ Plenty of inputs
- ✗ Poor support for PCs

HOME CINEMA LCD PROJECTOR
1,280x720 resolution, contrast ratio not disclosed, 1,200 ANSI lumens, HDMI, VGA (with component adaptor), S-video, composite, and phono inputs, optical S/PDIF and subwoofer outputs, three-year onsite warranty
PART CODE V11H257340LU
DETAILS www.epson.co.uk

CHOOSING AN... LCD Monitor

Follow the steps to find your ideal specs

IMAGE SIZE: 17in

NATIVE RESOLUTION: 1,280x1,024

INPUTS: VGA

Recommended minimum in grey

1 A basic 17in LCD monitor with the specifications listed above will cost around £95. It will be fine for basic Windows work, but it will have poor viewing angles and colour reproduction won't be very good, so it's not ideal for colour-sensitive work.

2 A VGA input means you'll be able to use the monitor with every PC, but it won't give you as good a picture as with DVI. This digital connection requires a compatible graphics card, but means there are no digital-to-analogue or analogue-to-digital conversions, which reduce the quality of the picture. A DVI connection automatically gets the best picture; you won't have to adjust clock or phase settings as you do with an analogue connection.

3 A 19in monitor will cost around £110 and has the same native resolution as 17in models, but the extra space is easier on the eye. If you want higher resolutions, a 20in (from around £130) or larger display will have a native resolution of 1,680x1,050.

A widescreen monitor like this makes sense if you watch a lot of movies or play games. Budget 17in or 19in models come with a resolution of 1,440x900 (from around £110), while larger, more expensive models have a resolution of 1,680x1,050.

4 If you want a better-quality picture, look for a monitor with high contrast ratios. The higher the ratio, the whiter the whites and the blacker the blacks look. In images with high contrast levels, you'll be able to see finer details.

The viewing angles are important, as wider angles mean you don't have to sit face on to get the best picture. Wider angles also mean that more people can watch your screen, which is useful if you want to show films.

Fast response times cut down on ghosting. Don't be blinded by the numbers, though, as a response time of 25ms or quicker is fine for all applications.

5 Extras such as speakers and a USB hub can be useful, but don't buy solely for them; monitor speakers tend to be poor, while USB hubs cost only a few pounds.

PANASONIC PT-AX200E

★★★★★

COMPUTER
SHOPPER
BEST BUY

£780 inc VAT

From www.digitaldirect.co.uk

A 2,000-lumen lamp means you can use this 720p projector with the lights on. An ambient light sensor automatically adjusts the output, so you get great detail with the lights off, too. There's lens shift for convenience and the fan runs quietly. Image quality is excellent. Although at 12p an hour it's not the cheapest to run, you'll appreciate every penny's worth.



HOME CINEMA LCD PROJECTOR
1,280x720 resolution, 6,000:1 contrast ratio, 2,000 ANSI lumens, 2x zoom, 2x HDMI, VGA, component, S-video and composite inputs
PART CODE PT-AX200E
DETAILS www.panasonic.co.uk
FULL REVIEW May 2008

LG 37LC55

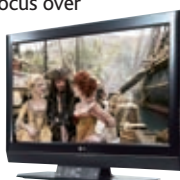
★★★★★

COMPUTER
SHOPPER
BEST BUY

£432 inc VAT

From www.digitaldirect.co.uk

LG's 37LC55 looks fabulous and has the performance to match. It's great for standard interlaced video but really comes into its own when handling high-definition (HD) material and progressive-scan DVDs. Colours are rich and natural, and focus over VGA and DVI is pin-sharp. This is a great TV at a very good price.



37in LCD TV 1,366x768 native resolution, VGA, component, 2x SCART, digital tuner
PART CODE 37LC55
DETAILS www.lge.com
FULL REVIEW Nov 2007

VIEWSONIC VX2435wm

★★★★★

COMPUTER
SHOPPER
BEST BUY

£406 inc VAT

From www.dabs.com

This 24in monitor has every input you're likely to need, and comes with a good pair of integrated speakers. It has a huge 1,920x1,200 resolution, so you get acres of desktop. It's very bright at its default settings, but blacks aren't the deepest we've seen. It's ideal for those doing serious photo or video work.



24in WIDESCREEN LCD 1,920x1,200 native resolution, 1,000:1 contrast ratio, 500cd/m² brightness, HDMI, DVI, VGA, component, S-video and composite inputs
PART CODE VX2435WM
DETAILS www.viewsonic.co.uk
FULL REVIEW May 2008